The Introduction of ORICO 3549RUS3

RAID function description:

ORICO 3549RUS3 supports RAID 0/1 /3/5/10/combine/clear RAID (RAID 1/3/5/10 with automatic rebuild function) 7kinds RAID modes.

Clear RAID

This mode is same as common HDD enclosure mode. Under this mode, any HDD in enclosure is detected as single HDD, and operate R/W separately. Users can select any HDD to store data. If one HDD is damaged, other HDD would not be affected.

RAID 0 (FAST mode)

This mode is our familiar RAID 0 mode. In this mode, the storage data is divided into two parts and store in two separate HDD. At this time, the theoretical storage speed of mobile HDD enclosure is 2times of single HDD, the actual capacity is equal to 2times of the smaller HDD's capacity. The defect of RAID 0 is that if any HDD is damaged, the data in whole RAID can't be restored.

RAID 1 (SAFE mode)

This mode is our familiar RAID 1. In this mode, 2pcs HDD are mirroring. The actual capacity of mobile HDD is equal to smaller HDD, storage speed is same as single HDD. The priority of RAID 1 is that if any HDD is damaged, all the data will not lose, and defect is that the HDD capacity loss is big. It fit for very important data, such as data base,

personal data backup, it's best storage solution.

RAID 3

RAID 3 needs at least 3pcs HDD. One HDD is used for data's storage and error correction. When one HDD is damaged, the lost data can get back from the data in rest HDD by some allocation algorithm. Because RAID 3 put the data dispersed in HDD, the read speed is good, but write speed is slow.

RAID 5

RAID 5 put the original data and corrected data dispersed in all HDDs(need 3pcs HDD at least). Under this mode, when one HDD damage, you just need to take out that HDD and change another HDD with same or bigger capacity, then the data can be recovered and rebuild RAID mode. In RAID 5 system the data write spread all HDD, this means that the R/W action may happen in one HDD at same time. RAID 5 only use one third disk space to store data, and provides goods cost performance.

RAID 10

RAID 10 mode is combination of RAID 0 and RAID 1 mode. It needs 4pcs HDD, and HDD actual capacity is equal to 2times of smaller HDD capacity. This mode has RAID 0 high speed and RAID 1 safety. Under this mode, when one HDD damage, you just need to take out that HDD and change another HDD with same or bigger capacity, then the data can be recovered and rebuild RAID mode. This mode is safe and stable, but HDD space use rate is low and expense is high, 4pcs HDD can only use 2pcs HDD capacity.

Combine

Combine mode combine all HDD to a big HDD. HDD actual capacity is equal to total of all HDD capacity. If 4pcs 3TB HDD are used in this mode, it shows 12TB HDD in computer. Under this mode, HDD space use rate is high, management is convenient, but safety is bad and HDD performance isn't improved. When one HDD is damaged, the data in rest HDD will be lost.

RAID operation procedure:

ORICO 3549RUS3 can set RAID mode by install manager software in computer, or by product's RAID mode switch. Two ways are very easy, no need to worry complicated operation procedure. The RAID set by computer manager software are introduced in the user manual, here we introduce the procedure to set RAID mode by product's RAID switch.

1. Close device power
2. Switch RAID mode at back to Normal mode
3. Press SET button to open the device, hear one short sound, change to Clear RAID mode and stop SET button
4. Close device power, switch RAID mode at back to the mode you want to set, then repeat the procedure 3 and change to the RAID mode you need.

Attentions in using RAID:

1. Please backup the data in HDD before using. Once proceed to RAID set or change RAID mode, it will clear off all HDD data, and can't be recovered!
2. Please refer to user manual about the RAID mode switch at back of product. If any

query, please ask advice from customer service officers or technical person!

3. When build RAID mode, we suggest using same brand, model and capacity HDD to ensure performance and stability.
4. Please do not change or take out HDD casually. If take out the HDD, please note down the sequence of HDD, put back HDD in original sequence, do not change the sequence. Do not use one hdd separately to avoid data damage or lose.
5. If the HDD is once used in RAID mode, please clear HDD RAID info, make HDD recover to original status, to avoid RAID build fail.
6. In RAID 0/Combine mode, when one HDD is damaged, the data in rest HDD will be lost.
7. In RAID 1/3/5/10 mode, when one HDD damage, you just need to take out that HDD and change another HDD with same or bigger capacity, then the data can be recovered and rebuild RAID mode. This procedure takes some time, please wait patiently.

All above are for reference. If you are first time to use RAID, we strongly suggest you to use Google or BAIDU to search RAID information! Of course, if you don't need RAID function, ORICO 3549 is also your best choice, you only need select Clear RAID mode! Then you can detect several HDD in your computer easily. It's very simple to have professionals' storage system. With ORICO 3549RUS3 storage system, you can phase out other HDD enclosure, and only need to add HDD!

Intelligent temperature control fan function description:

ORICO 3549RUS3 can change heat dissipation fan speed according to HDD temperate, even stop fan work, to realize HDD temperate control and reduce fan noise.
When device and HDD enter in intelligent sleep mode, the fan stops working.

Intelligent sleep function description:

ORICO 3549RUS3 has intelligent sleep function. In sleep mode, the HDD and fan stop working. This function can reduce HDD damage, power consumption and heat, energy saving and environmental. It's good for HDD cooling and extends its lifetime.

1. When computer in sleep mode more than 5minutes, HDD enter into sleep mode automatically
2. No data R/W in 5minutes, HDD enter into sleep mode automatically
3. No data cable connect in 5minutes, HDD enter into sleep mode automatically
4. Using Clear RAID mode, intelligent sleep doesn't work
5. When manager software in operation, intelligent sleep doesn't work, need to close manager software to realize intelligent sleep function

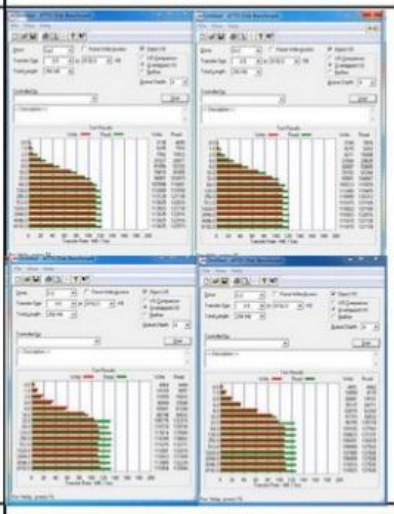
Speed test

USB3.0 port test:

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:USB3.0

NORMAL

	Item	Result
	Format	PASS
	R/W File	PASS
1	WriteSpeed (MB/S)	113MB/S
	Read Speed (MB/S)	122MB/S
2	WriteSpeed (MB/S)	111MB/S
	Read Speed (MB/S)	121MB/S
3	WriteSpeed (MB/S)	115MB/S
	Read Speed (MB/S)	133MB/S
4	WriteSpeed (MB/S)	110MB/S
	Read Speed (MB/S)	127MB/S

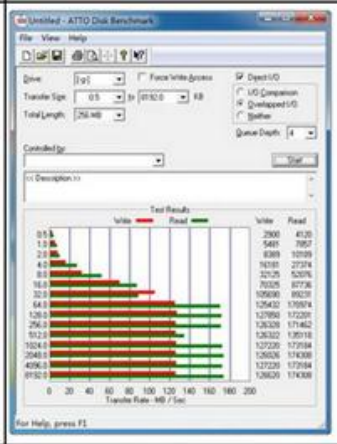


	Item	Result
	Format	PASS
	R/W File	PASS
1	WriteSpeed (MB/S)	103MB/S
	Read Speed (MB/S)	118MB/S
2	WriteSpeed (MB/S)	110MB/S
	Read Speed (MB/S)	118MB/S
3	WriteSpeed (MB/S)	111MB/S
	Read Speed (MB/S)	136MB/S
4	WriteSpeed (MB/S)	106MB/S
	Read Speed (MB/S)	114MB/S

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:USB3.0

RAID0

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	126MB/S
Read Speed (MB/S)	174MB/S

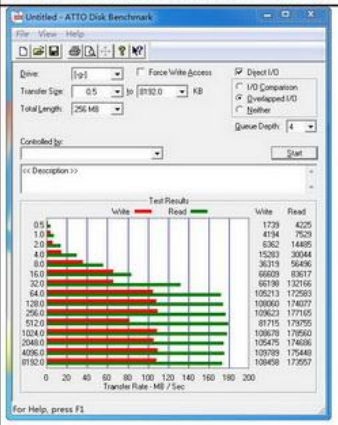


Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	113MB/S
Read Speed (MB/S)	163MB/S

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:USB3.0

RAID10

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	108MB/S
Read Speed (MB/S)	173MB/S

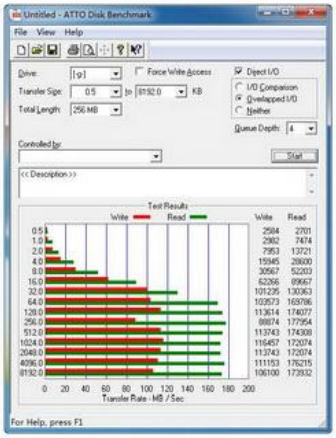


Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	105MB/S
Read Speed (MB/S)	164MB/S

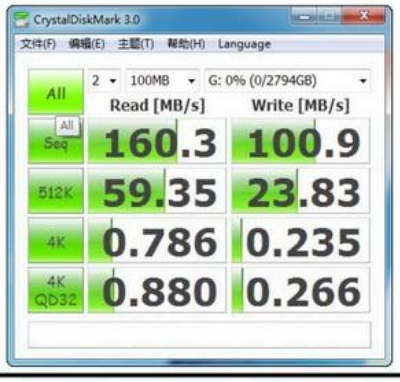
1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:USB3.0

RAID3

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	106MB/S
Read Speed (MB/S)	173MB/S



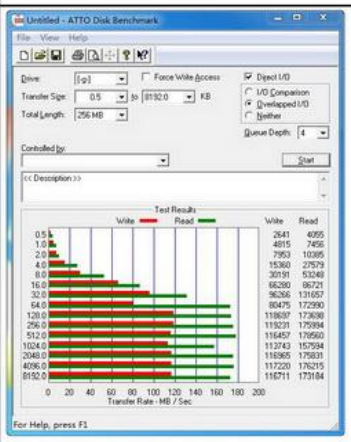
Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	100MB/S
Read Speed (MB/S)	160MB/S



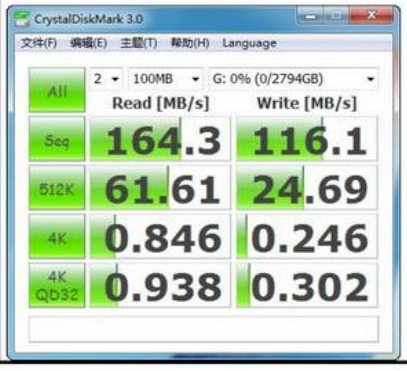
1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:USB3.0

RAID5

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	116MB/S
Read Speed (MB/S)	173MB/S



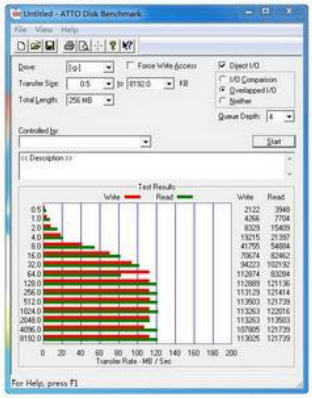
Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	116MB/S
Read Speed (MB/S)	164MB/S



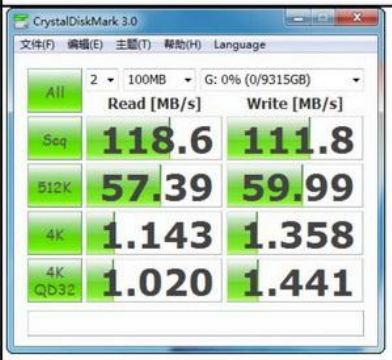
1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3. Port:USB3.0

LARGE

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	113MB/S
Read Speed (MB/S)	121MB/S



Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	111MB/S
Read Speed (MB/S)	118MB/S

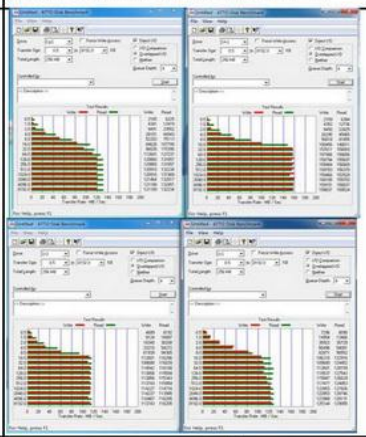


E-SATA port test:

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3. Port:E-SATA

NORMAL

	Item	Result
	Format	PASS
	R/W File	PASS
1	WriteSpeed (MB/S)	121MB/S
	Read Speed (MB/S)	132MB/S
2	WriteSpeed (MB/S)	158MB/S
	Read Speed (MB/S)	158MB/S
3	WriteSpeed (MB/S)	113MB/S
	Read Speed (MB/S)	116MB/S
4	WriteSpeed (MB/S)	125MB/S
	Read Speed (MB/S)	129MB/S

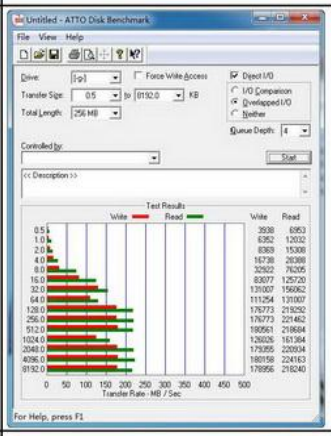


	Item	Result
	Format	PASS
	R/W File	PASS
1	WriteSpeed (MB/S)	119MB/S
	Read Speed (MB/S)	133MB/S
2	WriteSpeed (MB/S)	155MB/S
	Read Speed (MB/S)	153MB/S
3	WriteSpeed (MB/S)	115MB/S
	Read Speed (MB/S)	116MB/S
4	WriteSpeed (MB/S)	106MB/S
	Read Speed (MB/S)	141MB/S

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:E-SATA

RAID0

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	178MB/S
Read Speed (MB/S)	218MB/S

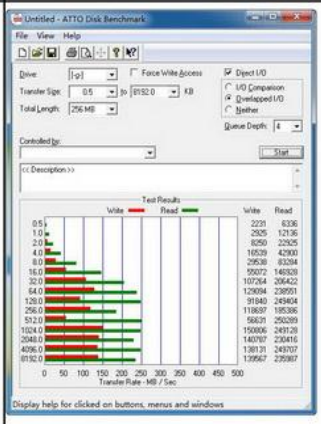


Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	159MB/S
Read Speed (MB/S)	208MB/S

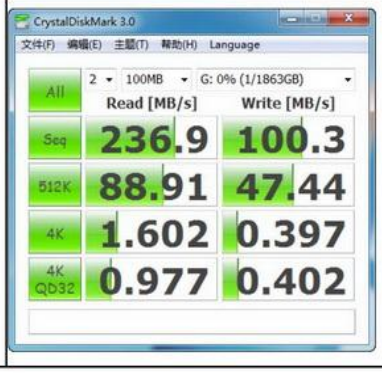
1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:E-SATA

RAID10

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	124MB/S
Read Speed (MB/S)	133MB/S



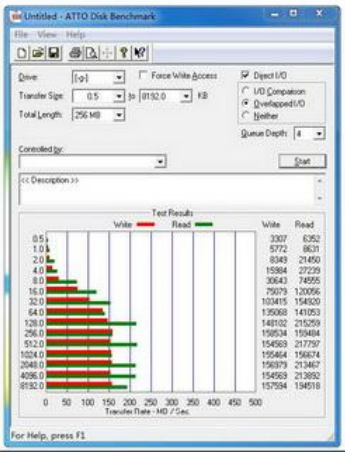
Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	121MB/S
Read Speed (MB/S)	131MB/S



1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:E-SATA

RAID3

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	157MB/S
Read Speed (MB/S)	194MB/S

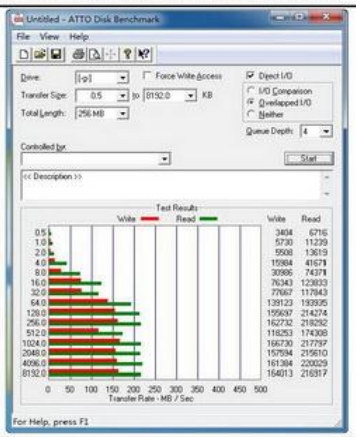


Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	104MB/S
Read Speed (MB/S)	186MB/S

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:E-SATA

RAID5

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	164MB/S
Read Speed (MB/S)	216MB/S

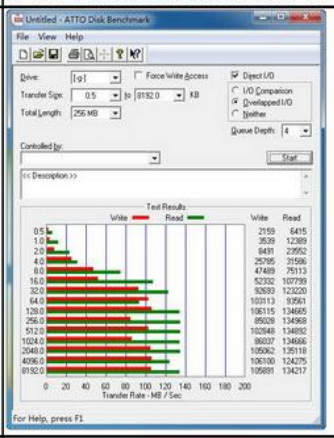


Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	123MB/S
Read Speed (MB/S)	182MB/S

1、OS：Windows 7	2、HDD：2*HITACHI-3T/HITACHI-1T/WD-3T	3.Port:E-SATA

LARGE

Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	105MB/S
Read Speed (MB/S)	134MB/S



Item	Result
Format	PASS
R/W File	PASS
WriteSpeed (MB/S)	122MB/S
Read Speed (MB/S)	131MB/S